



Fall 2003

Alaskan Way Viaduct and Seawall Replacement Project

Seawall Fact Sheet

Built for a Working Waterfront

Built between 1915 and 1936, Seattle's seawall was originally constructed to support rail and road access to the piers lining Elliott Bay. Unreinforced concrete walls and pile-supported concrete sidewalk sections make up approximately 1,200 lineal feet of the seawall. The remaining 6,700 linear feet is constructed of steel and concrete bulkheads, anchored by timber relieving platforms. Poor quality soil fills the area behind the seawall, up to Western Avenue, and creates the land on which the western-most area of downtown Seattle is built.

Time for A New Seawall

The seawall is showing signs of considerable deterioration. Geoprobe testing conducted in 2003 estimated that 40 to 50% of the timber relieving platform that supports the seawall has experienced significant damage due to age, earthquake events, and tiny marine crustaceans, called gribbles (genus *Limnoria*) that eat wood structures. The gribbles have completely destroyed key components of the timber relieving platform in several locations and damaged significant portions of others.



Site investigations show that the wall will be unable to resist an earthquake similar to the 2001 Nisqually Earthquake, due to the force of liquefying soil stacked behind its retaining walls. This means the seawall's vulnerability to an earthquake is greater than previously thought. Seismic experts say the likelihood of such a seismic event occurring in the next 10 years is 1-in-20.

Seawall Damage Has Statewide Significance

The failure of the seawall would have significant impacts to Washington State and its effects would be felt beyond our region. The continued integrity of Seattle's seawall is vital to preserving Seattle's downtown, the state's economic stability, and the region's quality of life.

- Seattle's historic waterfront and neighborhoods were built on the soils now held back by the seawall.
- The Burlington Northern Santa Fe rail line serves north/south and east/west freight and passenger rail service, links the Northwest and Eastern U.S. markets, and is supported by the seawall.
- The Port of Seattle, the closest U.S. port to Asia, accommodates goods delivered to all lower-48 states and is located on Seattle's waterfront.
- Major utilities run along the waterfront, including power, sewer, storm water, natural gas, and telecommunications services.





- The Alaskan Way Viaduct, built in the soil held back by the seawall, is a link in the National Highway System and a main north/south route through Seattle. It carries more than 110,000 vehicles per day and is a major freight route.

Short-Term Solutions

The City of Seattle has grouted significant voids in the seawall near the Seattle Aquarium and added monitors in critical areas to ensure public safety. A risk mitigation strategy, which includes future interim repairs and inspections, is also being developed.

Long-Term Need

A more permanent solution needs to be found. The integrity of the seawall is critical to the success of any replacement plan selected for the Alaskan Way Viaduct. News that the seawall is in worse shape than previously thought emphasizes the urgency to find a solution and funding for both critical infrastructure elements.

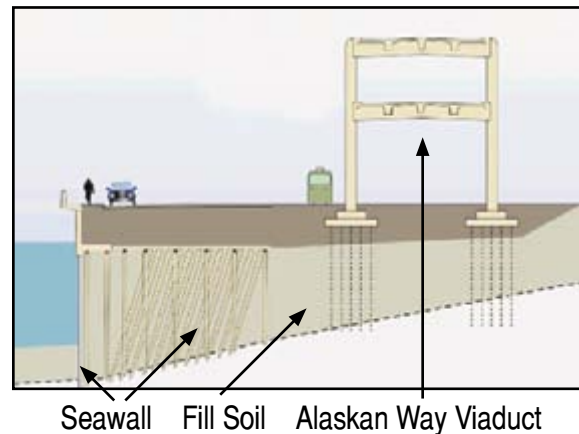
The City of Seattle and the Washington Department of Transportation (WSDOT) have joined in partnership to coordinate the replacement of both structures in recognition of their integral relationship. Coordi-

nation of both structures' replacement strategies will decrease construction costs and disturbance in the downtown area.

Funding

The City of Seattle has received a grant of \$500,000 for temporary repairs to the seawall.

The project hopes to receive a second grant, co-funded by the City, to complete a feasibility study to identify alternatives and complete an environmental review. The involvement of the U.S. Army Corps of Engineers has been requested by the city to determine whether there is a federal role in the replacement of the seawall.



For More Information

- Visit the website at www.wsdot.wa.gov/projects/viaduct
- Call the hotline at 206-269-4421
- Send an e-mail to viaduct@wsdot.wa.gov
- Send a letter to: Alaskan Way Viaduct and Seawall Replacement Project
c/o Washington State Department of Transportation
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Seattle, WA 98104

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